

EMERGENCY  
COMMUNICATIONS  
PUBLIC SERVICE  
EXPERIMENTATION  
INFORMATION  
EDUCATION

P.O. Box 30529  
Cleveland, Ohio 44130

Emergency Communications  
for:

COUNTY OF  
CUYAHOGA



Div. of  
Emergency Assistance & Planning

Not for profit Ohio corporation tax-exempt under IRS Section 501(c)(3)

# North Coast Communicator

## Code Practice

Sundays @ 20:00 on 145.29  
6,9,13,16,20,24WPM

## Informal Voice Nets

Sundays @ 21:00 on 145.29  
Saturdays @ 10:00 on 28.4

OCTOBER 1987

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STEVE STROH N8GNJ EDITOR

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OCTOBER NORTH COAST AMATEUR RADIO CLUB MEETINGS

The October NCARC trustees meeting will be held at the Denny's Restaurant meeting room at 25912 Lorain Avenue beginning at 18:00 EDT on Thursday October 1, 1987. NCARC Trustees meetings are open to the public as well as to any NCARC member. The October NCARC general meeting will be held at the North Olmsted branch of the Cuyahoga County public library's meeting room at 27425 Butternut Ridge Road beginning at 19:30 EDT on Thursday October 1, 1987. The featured speaker at the general meeting will be Chuck Early K8RSH, who will be talking about working the Amateur Radio ten meter band, and the 10-10 International organization. NCARC general meetings are also open to the public as well as to any NCARC member.

NOVEMBER NCARC MEETINGS

The November NCARC trustees meeting will be held at the usual place beginning at 18:00 EDT on Thursday, November 5, 1987. The November NCARC meeting will be held at the usual place beginning at 19:30 EDT on Thursday, November 5, 1987. The primary topic of this meeting will be the election of officers.

NORTH COAST AMATEUR RADIO EMERGENCY SERVICES (NCARES) MEETING

There will be a meeting of the NCARES Committee at Rick Well's (K8SCI) house on Sunday, October 4, 1987 at 14:00 EDT. One of the topics of discussion will be the upcoming disaster drill.

HEATHKIT H-89 COMPUTER FOR SALE

8 bit, 64K RAM, 3 90K floppy disk drives, 3 serial ports, CP/M operating system, lots of software- including Wordstar, Supercalc, Dbase II, communications, 300 baud CAT modem, Epson MX-80 printer, and at least 100 floppy disks. GREAT FOR PACKET RADIO!!! \$600.00 or best offer. Contact Dave Ernest WD8OYO @ 777-3694.

LATEST 8TH DISTRICT CALLSIGNS

The callsigns for the 8th call district as of September 1, 1987 are as follows:

Novice: KB8DBS, Technician/General: N8ISY, Advanced: KE8NP, Extra: NY8H.

If you would like to find out personally what the latest callsigns are, you can call the Gettysburg FCC office at 717/337-1511. The latest callsigns are available after the 10th of the month- I.E. the September 1 callsigns are available only after September 10. Thanks to Rick Wells K8SCI for this information.

5TH ANNUAL AMSAT ANNUAL GENERAL MEETING AND SPACE SYMPOSIUM  
TO BE HELD ON SATURDAY NOVEMBER 7, 1987 NEAR DETROIT

The Radio Amateur Satellite Corporation (AMSAT) 5th Annual General Meeting and Space Symposium will be held on Saturday, November 7, 1987 at the Southfield Hilton in Southfield, Michigan (a suburb of Detroit). The featured speaker will be Shuttle Astronaut and Space Station Program Scientist Dr. Tony England WOORE. The meeting will include:

Lectures, seminars and demonstrations      Handouts and other literature  
Displays and exhibits                      Pre-registration prizes  
Live demonstrations                      Door prizes  
Sessions for beginners and Novices      Banquet

For additional information and registration forms, write to:  
AMSAT, P.O. Box 1091, Ann Arbor, Michigan 48109-1091



North Coast ARC Fox Hunts - From the Beginning de Rick K8SCI

<u>Date</u>	<u>Fox</u>	<u>Location</u>	<u>Winner</u>
1985			
Jun 8	K8SCI Rick & KA8FOE Pauline	North Olmsted	NO8M Steve & KA8ZVV Mary
Jul 13	NO8M Steve & KA8ZVV Mary	North Olmsted	K8SCI Rick & KA8FOE Pauline
Aug 10	K8SCI Rick & KA8FOE Pauline	North Olmsted	KC8QN Ron & WB8PHI Larry
Sep 14	KA8BJA Frank WB8PHI/KC8QN	North Olmsted	NO8M Steve & KA8ZVV Mary
Oct 12	NO8M Steve	North Olmsted	K8SCI Rick & KA8FOE Pauline
Nov 9	K8SCI Rick & WD8OYO Dave	Avon Lake	KA8BJA Frank
Dec 14	N8FCX Ron (for KA8BJA Frank)	Bay Village	NO8M Steve & Mary KA8ZVV
1986			
Jan 11	NO8M Steve & KA8ZVV Mary	Berea	K8SCI Rick & KA8FOE Pauline
Feb 8	K8SCI Rick & KA8ZVW Gene	Cleveland	K8RZP/N8IAA/WD8OMW Glenn
Mar 8	K8RZP John	Berea	K8SCI Rick & KA8FOE Pauline
Apr 12	K8SCI Rick & Pennie	North Ridgeville	NO8M Steve & KA8ZVV Mary
May 10	NO8M Steve & KA8ZVV Mary	Leap-Frog-Hunt	KA8BJA Frank
May 10	KA8BJA Frank	Leap-Frog-Hunt	NO8M Steve & KA8ZVV Mary
May 10	NO8M Steve & KA8ZVV Mary	Leap-Frog-Hunt	K8SCI Rick & KA8FOE Pauline
May 10	K8SCI Rick & KA8FOE Pauline	Leap-Frog-Hunt	NO8M Steve & KA8ZVV Mary
May 10	NO8M Steve & KA8ZVV Mary	Leap-Frog-Hunt	K8SCI Rick & KA8FOE Pauline
May 10	K8SCI Rick & KA8FOE Pauline	Leap-Frog-Hunt	K9SSL Mike & Family
Jun 14	K9SSL Mike & XYL Dee	Nr I-480/Grayton	K8DTS Bob & Amy
Jul 12	K8DTS Bob & Amy	Stinchcomb Mem.	K8RZP John & KA8YQN Joe
Aug 9	K8RZP John	Avon Lake	N8LL Jim & WD8DIE Lew
Sep 13	N8LL Jim & N8EIJ Ken	Brook Park	N8ETY Dave
Oct 9	N8ETY Dave	Rocky River	K8SCI Rick & KA8FOE Pauline
Nov 8	K8SCI Rick & KA8ZVW Gene	Avon Lake	K8DTS Bob & Amy
Dec 13	K8DTS Bob & Amy	North Olmsted	K8SCI Rick & Pauline
1987			
Jan 10	K8SCI Rick & KA8FOE Pauline	North Olmsted	K8DTS Bob & Amy
Feb 14	K8DTS Bob & Amy	Westlake	WD8MHL Ray & XYL Carol
Mar 14	Postoned until next month.		
Apr 11	WD8MHL Ray & XYL Carol	I-480/Grayton Rd	K8SCI Rick & KA8FOE Pauline
May 7	K8SCI Rick & KA8FOE Pauline	Fairview Park	N8LL Jim & N8EIJ Ken
Jun 13	N8LL Jim & N8EIJ Ken	Columbia Station	K8SCI Rick & KA8FOE Pauline
Jul 11	K8SCI Rick & KA8FOE Pauline	North Ridgeville	N8LL Jim & N8EIJ Ken
Aug 8	N8LL Jim & N8EIJ Ken	Lakewood	K8RZP John & XYL Nancy
Sep 12	K8RZP John & XYL Nancy	Avon Lake	K8SCI Rick & KA8FOE Pauline

The Next NCARC Fox Hunt is October 10, 1987. Everyone is welcome to join in. Hunters meeting location is to the rear of the N. Olmsted branch of the Cuyahoga County Library on Butternut Ridge Road. All Hunters should be ready to go at 7:00 PM.

DISASTER DRILL DEMO - SATURDAY OCTOBER 17, 1987

Volunteers are requested to aid in both Voice and Packet Amateur Radio Communications involving Conrail and the Cuyahoga County Division of Emergency Assistance and Planning (DSA). Hourly demonstrations will be made to many local Fire Departments attending this operation. Set-up will be about 11:00 AM and demonstrations will be at 12 Noon, 1 PM, 2 PM, 3 PM and 4 PM. The demonstrations will take place at the Cleveland Fire Department Training Center on Lakeside Ave (near the Interbelt). All interested amateurs are urged to contact Rick K8SCI at 779-8999 A.S.A.P..



Welcome New NCARC Members since the Jun 18, 1987 Roster

Call	CI	Name	Address	City, State, ZIP	Phone
KB8CJJ	T	Wally Fedrowiz	17114 Laverne Ave.	Cleveland, OH 44135	251-0817 UL
KB8CJK	G	John Kassimatis	1547 Canterbury Rd.	Westlake, OH 44145	835-4643
KB8CJP	T	Dave Hruska	7710 Lucerne Dr.	Middleburg Hts, OH 44130	826-4213
N8IDA	T	Joe Molter	3842 Montevista Rd.	Cleveland Hts, OH 44121	291-5580 UL
N8IRS	T	Rob Gasparik	2321 Ralph Ave.	Cleveland, OH 44109	351-6125
N8ITI	T	Andy Poling	4707 Martin Dr.	North Olmsted, OH 44070	777-8785
K8KGP	T	Tibor Gasparik	2321 Ralph Ave.	Cleveland, OH 44109	351-6125
WD8LHK	A	Bill Tarczy	16517 Morningstar Dr.	Strongsville, OH 44136	238-9073 UL
W8MGX	G	Bob Strong	5851 Clearview Dr.	Parma Hts, OH 44130	843-6907
WB8RNI	A	Hank Hausmann	18456 Potomac Dr.	Strongsville, OH 44136	238-5881
K8YRN	A	Guy Elder	18317 Walnut Dr.	Strongsville, OH 44136	238-9319
WB8YTQ	G	John Slavik	906 Broadway Ave.	Bedford, OH 44146	439-8452
-	N	Warren Drew	31652 Electric Blvd.	Avon Lake, OH 44012	933-3048

NCARC Members who have changed their address

WL7AEC	G	Tom Tetzlaff	23 Nelson Dr.	Silver Bay, MN 55614	-
KE8BN	A	Mark Dunkel	27500 Detroit Ave.	Westlake, OH 44145	835-0761 UL
W8CEM	A	Chuck Perry	4769 Columbia, #204	North Olmsted, OH 44070	777-3157
KA8SLX	T	Chris Tetzlaff	23 Nelson Dr.	Silver Bay, MN 55614	-

NCARC Members who have changed their callsign

N8ING	Eileen Neubeck	ex KA8YEA	N8INI	Kathy Hitesman	ex KA8ZUA
N8INJ	Jason Hitesman	ex KA8ZVX	N8IRS	Rob Gasparik	ex KB8CQT
N8ITI	Andy Poling	ex KB8CJL			

(A complete up-to-date 1987-88 NCARC roster will be in the November issue)

NCARC Candy Bar Fund Raising Update de Rick K8SCI

As of September 19, 1987, the NCARC club treasury has benefited by \$1535.00. There are still some candy bars left over and the NCARC Board voted to authorize the remainder of the bars **ON SALE** at up to **HALF-PRICE** (2 bars for a dollar). There are only Milk Chocolate with Roasted California Almonds left (2 1/4 oz bar).

If you are interested in helping out your club by either selling or buying some of the candy bars, please contact Rick K8SCI or Pauline KA8FOE at 779-8999 A.S.A.P..

A complete list of all those that helped along with all totals will be printed in the November issue of the North Coast Communicator.

NCARC ARRL VE Report August 8, 1987 session. de Dan KB8A

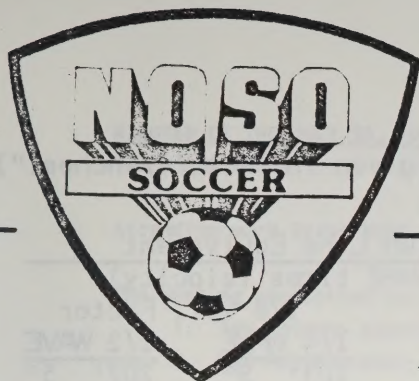
15 individuals took 23 elements of which 14 elements were successfully passed yielding 8 upgrades including two new amateurs.

Congratulations to the following NCARC members who successfully upgraded: KA8ZLT Evan from Advance to Extra, KA8ZVW Gene from Novice to Technician and to Warren Drew who successfully completed his Novice exam.

NCARC ARRL VE's assisting me were NR8T Tim, K9SSL Mike and NO8M Steve. Thanks to N8ILL Marylou and K8SCI Rick for assisting.

The next NCARC ARRL VE Exam will be October 10, 1987 at the North Olmsted Community Cabin (North Olmsted Park) with registration opening at 12:30 PM and examinations starting at 1:00 PM.





## NORTH OLMSTED SOCCER ORGANIZATION

P.O. BOX 326

NORTH OLMSTED, OHIO 44070

29609 Wellington  
N. Olmsted, Ohio 44070  
12 July 1987

North Coast Amateur Radio Club  
P. O. Box 30529  
Cleveland, Ohio 44130

Dear Sir:

As Tournament Director of the 10th Annual NOSO Cup '87 Soccer Tournament, I'd like to express the appreciation of NOSO to all your members who played such a vital role in the success of this year's event.

All your volunteers performed admirably in maintaining communications between as many as four sites. Particularly noteworthy was the outstanding coordination and performance of Rick Wells who put in three long days at the "nerve center" and who earlier had found the many volunteers required and assigned them to various locations without a hitch.

Please thank all your members who participated, and assure them they were an integral part of the success of the weekend. North Olmsted can be proud of your Club, and as another volunteer organization, NOSO salutes you.

Thank you very much.

Yours truly,

*Gordon D. Hall*  
Gordon D. Hall  
Tournament Director



North Coast handy reference guide for Antenna and Coax lengths (given in Feet(')/Inches("))  
(rounded to nearest inch below 54 Mhz)

Freq. in Megahertz	Antenna Length (468 divided by Mhz)		Coax Transmission Line Equivalent (492 divided by M-HZ times Velocity)			
	1/4 Wave	1/2 Wave	.66 Vel. Factor		.78 Vel. Factor	
			1/4 Wave	1/2 Wave	1/4 WAVE	1/2 WAVE
1.850	126' 6"	253' 0"	87' 9"	175' 6"	103' 9"	207' 5"
1.900	123' 2"	246' 4"	85' 5"	170' 11"	101' 0"	202' 0"
1.950	120' 0"	240' 0"	83' 3"	166' 6"	98' 5"	196' 10"
3.550	65' 11"	131' 9"	45' 9"	91' 6"	54' 1"	108' 1"
3.600	65' 0"	130' 0"	45' 1"	90' 2"	53' 4"	106' 7"
3.650	64' 1"	128' 3"	44' 6"	89' 0"	52' 7"	105' 2"
3.700	63' 3"	126' 6"	43' 11"	87' 9"	51' 10"	103' 9"
3.750	62' 5"	124' 10"	43' 4"	86' 7"	51' 2"	102' 4"
3.800	61' 7"	123' 2"	42' 9"	85' 6"	50' 6"	101' 0"
3.850	60' 9"	121' 7"	42' 2"	84' 4"	49' 10"	99' 8"
3.900	60' 0"	120' 0"	41' 8"	83' 3"	49' 2"	98' 5"
3.950	59' 3"	118' 6"	41' 1"	82' 3"	48' 7"	97' 2"
7.050	33' 2"	66' 5"	23' 0"	46' 1"	27' 3"	54' 5"
7.100	33' 0"	65' 11"	22' 10"	45' 9"	27' 0"	54' 1"
7.150	32' 8"	65' 6"	22' 9"	45' 5"	26' 10"	53' 8"
7.200	32' 6"	65' 0"	22' 7"	45' 1"	26' 8"	53' 4"
7.250	32' 3"	64' 7"	22' 5"	44' 10"	26' 6"	52' 11"
10.125	23' 1"	46' 3"	16' 0"	32' 1"	18' 11"	37' 11"
14.050	16' 8"	33' 4"	11' 7"	23' 1"	13' 8"	27' 4"
14.100	16' 7"	33' 2"	11' 6"	23' 0"	13' 7"	27' 3"
14.150	16' 6"	33' 1"	11' 6"	22' 11"	13' 7"	27' 1"
14.200	16' 6"	33' 0"	11' 5"	22' 10"	13' 6"	27' 0"
14.250	16' 5"	32' 10"	11' 5"	22' 9"	13' 6"	26' 11"
14.300	16' 4"	32' 9"	11' 4"	22' 9"	13' 5"	26' 10"
21.100	11' 1"	22' 2"	7' 8"	15' 5"	9' 1"	18' 2"
21.200	11' 0"	22' 1"	7' 8"	15' 4"	9' 1"	18' 1"
21.300	11' 0"	22' 0"	7' 7"	15' 3"	9' 0"	18' 0"
21.400	10' 11"	21' 10"	7' 7"	15' 2"	9' 0"	17' 11"
24.940	9' 4"	18' 9"	6' 6"	13' 0"	7' 8"	15' 5"
28.500	8' 3"	16' 5"	5' 8"	11' 5"	6' 9"	13' 6"
29.000	8' 1"	16' 2"	5' 7"	11' 2"	6' 7"	13' 3"
29.500	7' 11"	15' 10"	5' 6"	11' 0"	6' 6"	13' 0"
50.500	4' 8"	9' 3"	3' 3"	6' 5"	3' 10"	7' 7"
51.000	4' 7"	9' 2"	3' 2"	6' 4"	3' 9"	7' 6"
52.000	4' 6"	9' 0"	3' 1"	6' 3"	3' 8"	7' 5"
53.000	4' 5"	8' 10"	3' 1"	6' 2"	3' 7"	7' 3"
145.000	19.37"	38.73"	13.44"	26.87"	15.88"	31.76"
146.000	19.23"	38.47"	13.34"	26.69"	15.77"	31.54"
147.000	19.10"	38.20"	13.25"	26.51"	15.66"	31.33"



MINUTES OF THE JULY 30, 1987 MEETING OF THE NCARC TECHNICAL COMMITTEE

Tom Adams N8FQQ

Attending were Steve N08M, Jeff KR0J, Rick K8SCI, Dan N8ETQ, and Tom N8FQQ.

The meeting was called to order at 19:30 EDT by Tom N8FQQ. Old business topics were:

1. New antenna coverage
2. 220 MHz Repeater
3. Tone alert system

1. All members were in agreement on the vastly improved repeater coverage due to the installation of the new antenna. Coverage area holes have moved and it is too early to truly evaluate antenna performance. Also, comparisons are difficult to make because of the short time the G-7 was fully operational. One observation must be noted that the repeater seems to hear better than it transmits.

Other items that must be cleaned up before foul weather sets in were also discussed. They are as follows:

1. Guy wire to tower ground bonding
  2. Copper ground wire for the entire tower (let's protect our investment)
  3. Independent ground and 110V circuit for the repeater rack
2. A 220 MHz repeater is available for purchase through Jeff KR0J. It is a Spectrum SCR-1000 with COR, ID'er, and timer. The repeater system is complete with 100' of heliax, Phelps Dodge Super Stationmaster antenna, and Wacom duplexer. The price tag for this system is \$3,000.000. Jeff is to get more details on options and accessories (considering the price tag).

Certain members are still on the look-out for a hamfest special that may materialize. Also one item that must be considered concerning a 220 MHz repeater is site location.

3. The tone alert oscillator is to be built by Dan N8ETQ. Tom N8ETP has also volunteered to work on this project since he is already familiar with the repeater's audio path. A decision was made to use utilize a decoder/muting circuit rather than a 1050 Hz notch on the repeater input. This will prevent unauthorized transmission of the alert tone through the repeater. Use of this circuit should not degrade repeater audio as much as a notch filter.

#### New business topics:

1. Repeater ERP
  2. Repeater relocation
1. Since comments have been noted that the repeater is receiving better than it is transmitting, a decision was made to temporarily increase the ERP [effective radiated power- Ed.] between 3 and 5 dB. This experiment will be carried out in the fall, so that the membership can become familiar with the present coverage. Rick K8SCI will contact Spectrum for prices of components needed to separate the repeater's exciter from the [final] RF [power] amplifier. Presently the repeater may not meet spectral purity requirements when operated on the exciter alone. Additions of this filtering would enable the use of any RF amplifier in the event of a final power amplifier failure.
2. Rick K8SCI has submitted the proper drawings to the North Olmsted Service Director regarding the Victoria Plaza site. Rick also added the possibility of space a 400' tower located in the State Road hill vicinity- details forthcoming.

Repeater relocation was discussed at length. Due to many varying opinions regarding system configuration, each committee member agreed to submit drawings at the next committee meeting for discussion.

Depending on location, costs of relocating and operating could become considerable. Following is a list of such expenditures:

1. Quality repeater controller
2. New rack and power distribution
3. Link equipment
4. Battery back up
5. Transmission line
6. Electrical and phone (installation and service)
7. Contractor costs (electrical and tower)



The technical committee requires guidelines as to how elaborate a 2 meter repeater the membership wants and can support. Once a guideline is established, a system configuration can be decided upon and implemented.

The technical committee has purchased a share of the repeater and challenges any committee or individual to do the same.

The technical committee is open for suggestions, and would like to hear from the general membership. If you have a worthwhile project or suggestion, just drop us a postcard or QSL at the club's P.O. box. Remember, this is your club- we would appreciate your input.

#### SPACE SHUTTLE FREQUENCIES

Downloaded from the KB8CI PBBS on 145.01

```

Msg# TR  Size To      From @ BBS  Date      Title
6926 BN  2565 ALL    WB2HBZ      0910/0422 Space Shuttle Frequencies
WB2HBZ/WA8YWH/182/MENTOR/OH/JKt
R:870905/0545 EST @:WA2PVV Valatie, N.Y. #:135 O:WB2HBZ
R:870906/0340z @:WA2UMX Saratoga Springs NY #:4025 O:WB2HBZ F:145.01/145.05
R:870905/2040z @:WA2SNA #15108 Hawthorne, NJ Node:NNJ Ramapo Mtn ARC
R:870903/1620z <02709@WB2HBZ> Kinnelon, NJ <O:WB2HBZ P:201 F:145.05MHz
Date: 03 Sep 87 12:20:37 EDT (Thu)
From: wb2hbz@wb2hbz.nnj.ampr (Jim)
Message-Id: <2709@wb2hbz.nnj.ampr>
To: all@wa2pvv
Subject: Space Shuttle Frequencies
Subject: RE: Space Shuttle Frequencies
Path: ..!STAR.STANFORD.EDU!PARISE%UIT (PARISE%UIT @ The ARPA Internet)

```

Hi Folks!

This is in response to the question about shuttle frequencies. I tried to reply the other day but apparently it didn't work. The space shuttle transmits on three frequency bands, UHF, S-Band, and Ku-Band. The UHF frequencies are simple AM voice and very easy to copy. These frequencies are used for launch and landing operations, EVA communications, (i.e. from the spacesuits back and forth to the shuttle), and as an additional voice downlink when other channels are in use or the current ground station has no S-Band capability. The frequencies in use are:

- 296.8 MHz - air to ground, or orbiter to suit
- 259.7 MHz - air to ground, or suit to orbiter
- 279.0 MHz - suit to orbiter or suit to suit
- 243.0 MHz - standard Mil aircraft emergency freq.

The S-Band system is one of the primary orbiter downlink bands. The voice channels are digital slope delta modulation and are mux'ed in with the rest of the orbiter telemetry, very difficult to copy. Much of the downlink TV is on S-Band also but it is wideband FM and should be easily copyable. The frequencies are:

- 2287.5 SJ- primary digital downlink
- 2250.0 MHz - wideband FM with either main engine analog telemetry during launch, or TV during orbital operations.

The Ku-Band system is used in conjunction with the tracking and data relay satellites and is used much more heavily in Spacelab flights than in others. The data is \*very\* high rate digital (50 Mbits/sec range) and therefore essentially impossible for you to demodulate and decommutate in your basement. Nevertheless the shuttle transmits on 15.003GHz. The UHF frequencies are fun to listen to but are not heavily used except during EVA's. You will almost always hear some activity on them. However, sometime during a mission but you just have to be patient.

Happy Listening!

Ron WA4SIR



Letters to the Editor column

From Chris Tetzlaff KA8SLX

23 Nelson Drive  
Silver Bay, Minnesota 55614

We left the area about 3:30 or so Thursday- the check cleared. Jack stopped over as the moving truck was being loaded. The movers called our neighbor to let us know we were within our weight limit. How we packed all that stuff in two trucks I'll never know. We had to put wet towels on the cat cages it was so hot. The last time I was cut off in traffic was in Toledo. We went as far as Milan, Michigan.

The next day took us to Mackinac City- with the bridge in the background. And this being a tourist stop- prices to go with it. The roads were pretty good- they had made strips out of the bumps in the concrete. Some red leaves were to be seen along the way. From there to Ishpeming, [sp?] Michigan. A short day and lots of rains, and very windy the whole time. I always wanted to stay in Ishpeming (a dream).

Continuing across the U.P. we made it to just above Duluth- stayed at a very nice cabin. Couldn't ask for more. You know, Duluth and all this area is built up on the side of hills and mountains. One fellow said that God was in a hurry when he made Minnesota, that's why it's so rough- he slowed down when he got to Wisconsin and took his time.

Guess I ought to say we operated 6.52 direct the whole way except when I changed frequencies by running my knee into the radio and didn't know it. I was very "noisy" and even sent code on the car horn to Tom. He couldn't hear it because the canoe on his truck was humming. Finally resorted to flashing lights. That worked.

Beaver Bay was our next stop. Got a very warm welcome at the real estate office. Got a room with a kitchenette and turned the cats loose while we looked for a place to live. We looked in the forest and in the "city". We looked at wells and septic systems and plows and anything you can think of and...

We made a bid on a house in Silver Bay. And the company that bought the mortgage from its employee took it. They're going to "eat" over half of the mortgage. We're in the house. It's pretty nice. Not too much to fix. We're on a hill- across the street is Superior National Forest. I can see Lake Superior out my back window. We have the money part of the deal going- waiting for the papers to be signed and the little stuff. But, we're here.

We saw a black bear the first day, a doe and her twins the next and a partridge the next. The people here are mostly retired, so we're the youngest in a group instead of the oldest. People from all over. There is no litter. Nobody locks their doors and people leave the keys in their cars. Everybody waves. You have to know whose house you bought because if you don't nobody knows what you're talking about.

If you want the guy from the electric company you can try his office, he not there, but the door is open. He may be at the cafe or in the real estate office or wherever. There are no jets flying over, no trains. Canada goose stay on the high school football field. I think we've met everybody in town.

Water treatment is by sedimentation and aeration. Water Department is very proud of their product. You don't need bleach for your laundry. A towel I have that has just been getting worse and worse was dramatically clean after one wash.

We have visited the Baptism River- we have walked the forest. The river is low, too low. We've helped with wood unloading and visited people and talked to the mayor, the police, the bank, and almost all the businesses in town... and they all say, "So whose house did you buy?"

People have said "then" at the end of sentences; You bet" and "eh?". Tom has developed a French Canadian accent. Where he got that from I'll never know.

I have tan hands and a wind burned face. Cats are getting used to the whole idea. Haven't sent for our stuff yet 'cuz the deal ain't [her words, not mine- Ed] done yet.

Charlie, across the street, who was going to buy this place so they didn't get any nuts in here is happy and is helping us. Said that he was going to show Tom how to slow down.

Feel free to use this in the newsletter if you wish.

Chris, Tom, Poonchkie, and Misfire

P.S. The water is Blue.



MINUTES OF THE SEPTEMBER 2, 1987 NCARC TRUSTEES MEETING

Steve Stroh N8GNJ acting secretary

The meeting was called to order by President Tim Hitesman NR8T at 18:20 EDT. Officers and trustees in attendance were Pauline KA8FOE, Rick K8SCI, Tim NR8T, Steve N8GNJ, Jim N8GJR, Dan N8ETQ, Ray WD8MHL, and Steve NO8M. Guests attending were Jeff K8OJ, Jeff's friend Eileen, Kathy N8INI, Jason N8INJ, Tim and Kathy's daughter Sarah, Ron KB8BEB, Dave N8ETY, Fred WB8UDA, Tom N8IAN, Russ WB8UPA, Hank WB8RNI, and Tom N8FQQ.

Jim N8GJR gave a very informal treasurers report. The club is in the black- the computer that the club's financial reports reside on died this afternoon, and will not be repaired until tomorrow so Jim wasn't able to give a formal report. As part of the treasurers report Rick K8SCI reported that the current roster of members in good standing (dues paid) stands at 157, of which approximately 21 are family members, leaving the club roster at approximately 136 full members.

Ray WD8MHL reported for the education committee that things are going along smoothly for the upcoming North Coast sponsored Novice/Tech/General classes. The classes will be held for 15 weeks starting September 30. The classes will run from 7:00 to 9:30 P.M. The cost of the classes will be \$17.50, \$10.00 of which is the North Olmsted City Schools fee. Ray reports having enough instructors to teach the N/T/G classes, and the possibility of Advanced and Extra classes will be decided by demand for the course and availability of instructors.

Tom N8FQQ reported for the technical committee that work is still progressing towards completion of a backup 5.29 repeater to be on the air while the main 5.29 (Spectrum) repeater is undergoing repairs for power supply problems and a problem in the final amplifier (one power transistor is known bad, there may be other problems found once the final is checked out).

Rick K8SCI gave the fundraising report. 4,537 candy bars have been distributed. Payment for 4,186 of those have been received. World's Finest, the candy bar manufacturer, has been fully paid. To date, the club has made approximately \$1,186. There are roughly 1,500 candy bars still in stock. Discussion ensued about whether or not to sell the remaining stock at a reduced price.

Ray WD8MHL made a motion to leave the price per bar to the discretion of the seller with a maximum price reduction of 50% (minimum price per bar would be 50 cents). Dan N8ETQ seconded the motion. Motion was carried.

Fred WB8UDA reminded the trustees that they needed to choose a recipient for the NCARC "Ham of the Year" for presentation of an award at the annual Cleveland Hamfest banquet. It was decided to not make the decision at that minute, but the decision would be made before the meeting adjourned.

Ron KB8BEB inquired as to the status of the 5.29 repeater relocation. Rick K8SCI said that the drawings necessary to secure a site on one of the taller buildings in North Olmsted had been turned into the North Olmsted City Director, and the "ball is in his court now". Ron again mentioned that he is willing to donate his 440 MHz repeater system to North Coast if a suitable site, such as the one proposed for 5.29, can be found.

The following letter was presented to the NCARC trustees (reformatted slightly for space reasons):

September 2, 1987

Dear Fellow North Coast ARC Officers and Trustees:

Ohionet, as you might know, is an emerging 220 MHz packet radio network within the state of Ohio. Ohionet consists of a series of linked digipeaters on 220 MHz, and is being formed to overcome severe congestion on the 2m packet channels that currently form the "backbone" of the packet radio mail forwarding



system in Ohio. Tom Kryza, KB8CI and I are attempting to "get things moving" for Ohionet in Greater Cleveland area, and frankly, we aren't having much luck. To date, no club has volunteered any assistance, monetary or otherwise to get an Ohionet digipeater on the air in the greater Cleveland area.

Efforts are being made to construct Ohionet digipeaters directly to the East and South of Cleveland. How successful those efforts will be is unknown. It is Tom's opinion that both efforts stand a good chance of succeeding because they are being led by dedicated, knowledgeable individuals who can procure both equipment and sites.

In trying to get an Ohionet digipeater on the air in Northeast Ohio, however, the only activity so far is that NCARC member Maynard Weston, W8MW has volunteered the use of his Midland 13-509 220 MHz crystal controlled radio for use in an Ohionet digipeater. Jim Martin W8AC has volunteered space on his tower in Chardon as a site for an Ohionet digipeater. (W8AC's QTH has proven to be an excellent location for a 2m digipeater and it is hoped that this site will work as well on 220 MHz.)

Tom and I would like the North Coast Amateur Radio Club to consider assuming a leadership role in providing an Ohionet digipeater for Northeast Ohio. The equipment necessary to complete a minimum Ohionet digipeater would consist of:

A Hustler G7-220 omnidirectional antenna- \$115

250' Belden 9913 coax- \$110 (prefer to use hardline if it is available relatively inexpensively)

GLB TNC 2A or MFJ 1270B- \$150

The total commitment would be for \$375.

Again, no other amateur radio club in Northeast Ohio has helped with this project. North Coast would be the first, and possibly the only club to be able to claim that they got Ohionet rolling in Northeast Ohio.

Sincerely,

Steven K. Stroh N8GNJ

After much discussion, Rick K8SCI made a motion that the NCARC trustees recommend to the general membership that NCARC provide the \$375 requested to put a NCARC sponsored Ohionet digipeater on the air in Northeast Ohio. Pauline K8FOE seconded the motion. Ray WD8MHL made a motion to amend Rick's motion to read "that the NCARC trustees present to the general membership" rather than "recommend to the general membership". Pauline seconded Ray's motion. Ray's motion was carried. Rick's motion now reads: that the NCARC trustees present to the general membership that NCARC provide the \$375 requested to put a NCARC sponsored Ohionet digipeater on the air in Northeast Ohio. Steve N8GNJ made a motion to amend Rick's amended motion to read "NCARC provide the equipment requested" rather than the \$375. Pauline seconded this motion. The motion carried. The twice amended motion now reads: that the NCARC trustees present to the general membership that NCARC provide the equipment requested to put a NCARC sponsored Ohionet digipeater on the air in Northeast Ohio. The amended motion was carried.

Steve N8M made a motion that Dan KB8A be the recipient of the NCARC Ham of the year award at the 1987 Cleveland Hamfest banquet. Ray WD8MHL seconded the motion, and the motion was carried.

The meeting adjourned at 19:28 EDT.

#### ABC ADMITS SLUR AGAINST HAMS BUT WILL NOT APOLOGIZE

Downloaded from the KB8CI PBBS

Msg# TR Size To From @ BBS Date Title  
7087 BN 548 ALL W8GRG 0919/1411 ABC ADMITS SLUR/WON'T APOLOGIZE!

R:870918/1723t @:W8GRG #4348 <W8GRG R:\$J/\$K @:\$o Shaker Hts. OH #:\$M O:\$p

Robert Siegenthaler, Vice President of News Practices at ABC admits TED KOPPEL used the term Ham Operator without justification in his August 17 newscast, but says the network won't apologize. You can read his letter on page 9 of October QST. He says we weren't hurt !! IF YOU DISAGREE, SEND HIM A QSL CARD AND TELL HIM SO !! Address:

Robert Siegenthaler, Vice President  
ABC News, 7 West 66th Street  
New York, NY 10023



MINUTES OF THE SEPTEMBER 2, 1987 NCARC GENERAL MEETING

Steve Stroh N8GNJ acting secretary

The meeting was called to order by President Tim Hitesman NR8T at 19:48 EDT. Officers and trustees in attendance were Pauline KA8FOE, Rick K8SCI, Tim NR8T, Steve N8GNJ, Jim N8GJR, Dan N8ETQ, and Steve N08M.

Jim N8GJR in lieu of a treasurer's report stated that "his computer had died". He gave some basic facts and figures about the budget: 157 members have renewed (21 of those were family members, making the actual renewal 136). The club treasury is at approximately \$2500.

Tim NR8T gave a brief education committee report in Ray WD8MHL's absence. (See minutes of the September 2, 1987 Trustees meeting for more details). Tim also gave the technical committee report in the absence of Tom N8FQQ. The 5.29 repeater's power supply is not functioning; the repeater is limping along on an outboard heavy duty 12 volt power supply. More serious is that the repeater's RF power amplifier is not running at full power due to a bad RF power transistor. All the parts for the repair of the repeater have arrived. Actual repair of the repeater is awaiting the completion of a back up repeater which will be put online while the main 5.29 repeater is under repair. While the main 5.29 repeater is being repaired, several modifications will be made, including a modification to allow an outboard RF power amplifier to be used instead of the repeater's built in power amplifier for tests on the repeater's coverage area to be done later this year.

Tim also reported on the candy bar fund raising activity. The club has currently a \$1186 profit. World's Finest Candies have been paid off. Approximately 1500 candy bars remain in stock. The trustees have authorized an up to 50% reduction in the price of the candy bars at the discretion of the seller. The price reduction is an attempt to "move" the remaining stock since they are starting to age.

Tim announced that he had Cleveland Hamfest tickets for sale at the meeting. The club realizes a 50 cent profit for each ticket sold.

Tim announced that the Cleveland Hamfest Banquet will be held the evening of Saturday, September 26, and the Cleveland Hamfest would be Sunday September 27.

Fred WB8UDA made a motion that the club buy two tickets for the Cleveland Hamfest Banquet for the NCARC President and his wife. Steve N08M seconded the motion. The motion was defeated.

Fred announced that Dan KB8A was the recipient of the NCARC Ham of the Year award and would be presented the award at the Cleveland Hamfest Banquet, for which the NCARC would provide tickets for himself and his wife Mary Lou.

Tim NR8T announced that the door prizes were donated by Fred WB8UDA and Tom N8IAN.

Fred WB8UDA made an announcement that he is actively working on "Operation Honduras" which would be a group of amateur radio operators travelling with the Ohio National Guard on its 1989 summer exercises in Honduras for the purpose of running "phone patches" back to the U.S. for the National Guard troops. Fred stated that the cost would be absorbed by the VFW (Veterans of Foreign Wars) and the hams would travel with the National Guard. Fred said that he would like North Coast to consider "sponsoring" this operation.

Steve N8GNJ asked the NCARC general membership to provide the funds or equipment (see minutes of the September 2, 1987 Trustees meeting for more details) to support a packet radio digipeater that would be used to link the greater Cleveland area into the statewide Ohionet packet network. Some of the items discussed were that the WBAC site is the ONLY one that has been offered for an Ohionet digipeater. Another topic was that although access to Ohionet by casual users would be discouraged, Ohionet would benefit all hams by providing a reliable packet network and move much of the BBS traffic off the main packet frequency on 145.01. After much discussion, Bob W8IO made a motion that NCARC support Steve's proposal with funds not to exceed \$100 with the option to explore other sites. Larry N8IAA seconded the motion. The motion was defeated.



Jack N8HVQ made a motion that NCARC support the philosophy of Steve's proposal and that NCARC will consider formally supporting Steve's proposal in the future and cooperate with other Northeast Ohio Amateur Radio clubs. Dave N8ETY seconded the motion. The motion was carried.

Rick K8SCI made a motion that NCARC to buy a GLB TNC 2A or MFJ 1270B for use in a Northeast Ohio Ohionet digipeater. If the TNC is not in use in a Northeast Ohio Ohionet digipeater within six months, Rick will buy the TNC from the club. Bob W8IO seconded the motion. Steve N8GNJ made a motion to amend Rick's motion that the cost not exceed \$150. Rick K8SCI seconded Steve's motion. Amendment was carried. Rick's amended motion now reads "that NCARC to buy a GLB TNC 2A or MFJ 1270B for use in a Northeast Ohio Ohionet digipeater for a cost not to exceed \$150. If the TNC is not in use in a Northeast Ohio Ohionet digipeater within six months, Rick will buy the TNC from the club. The amended motion was defeated.

Fred W88UDA asked about the club's policy about NCARC membership for graduates of NCARC's Novice class. Tim NR8T replied that the policy had been stated in previous meeting's minutes, but agreed that the policy needed to exist as a separate document. Tim volunteered to extract the policy from the minutes where it was published and present it at a future meeting before making the "stand alone" policy an official part of the club's records.

Tom N8FQQ mentioned that the technical committee was committed to buying one share of the repeater stock and challenged all the other committees to match their contribution.

Dan N8ETQ made a motion to get the 5.29 repeater repaired "professionally" even if the cost were "a couple of hundred dollars". Motion died for lack of a second.

Bob W8IO made a motion to direct the technical committee to proceed with repairs to the main 5.29 repeater with or without a completed back up repeater. Jim N8GJR seconded the motion. The motion was carried.

Chuck K8RSH mentioned that the ten meter band was "booming" with paths frequently available into Europe and "all over" and that 10-10 International was an excellent organization to belong to when trying to work DX on ten meters. When prompted by Tim NR8T, Chuck volunteered to do a program on ten meters and 10-10 International for the October meeting.

George K8WNE made a motion to adjourn. Ron K8VJG seconded the motion. Meeting adjourned at 21:14 EDT.

#### ARRL DX BULLETIN #37

Downloaded from the K88CI PBBS on 145.01

Msg#	TR	Size	To	From	@ BBS	Date	Title
7069	AN	1382	ALL	K88NW		0918/0118	ARRL DX 37
cc: *W8GRG *VE3GYQ							

QST DE W1AW

HR DX BULLETIN NR 37 FROM ARRL HEADQUARTERS NEWINGTON CT  
 SEPTEMBER 18, 1987  
 RELAYED BY K88NW/OBS  
 TO ALL RADIO AMATEURS BT

THANKS TO K1XM, THE SOUTHERN NEW ENGLAND DX ASSOCIATION AND THE YANKEE CLIPPER CONTEST CLUB FOR THE FOLLOWING DX INFORMATION.

GALAPAGOS. KT1N, WA7EGA, HC5KA AND OTHERS WILL BE OPERATING IN THE RTTY CONTEST SEPTEMBER 26 AND 27. EXPECT ACTIVITY ON OTHER MODES BEFORE AND AFTER THE CONTEST.

KIRIBATI. PAUL, WC5P, HAS BEEN ACTIVE ON 14309 KHZ SSB AND CW NEAR THE LOW END OF THE BAND. QSL VIA WC5P.

ZAIRE. 9Q5NW WILL BE ACTIVE ON 10 AND 15 METER CW AT 2200Z. LOOK AROUND 21015 KHZ. HE HAS ALSO BEEN ON 21250 KHZ SSB AT 2100Z.



CHATHAM ISLAND. ZL7IX HAS BEEN ACTIVE ON 7016 KHZ AT 1130Z. HE HAS BEEN REPORTED EARLIER ON 7162 KHZ.  
ANDAMAN. VU2GDG AND OTHER GROUPS PLAN TO OPERATE VU4 FROM OCTOBER 6 THROUGH 26.  
REUNION. FR5ES IS REPORTED TO BE ACTIVE ON 7008 KHZ AT 0300Z.

DXCC DESK. QSLs MUST BE SENT IN BY SEPTEMBER 30 FOR INCLUSION IN THE ANNUAL DXCC HONOR ROLL LISTING.

DX FLASH FROM KB1BE AND THE CONNECTICUT DX ASSOCIATION. ACCORDING TO SV1PL AND PA3DZN, A MOUNT ATHOS  
EXPEDITION WILL BE STARTING SATURDAY, SEPTEMBER 19, UNTIL THE END OF THE MONTH BY AN ALL GREEK TEAM LED BY  
SV2UF. OTHER TEAM MEMBERS ARE SV2RE, SV2UA AND SV2WT. THEY WILL PROBABLY SIGN THEIR HOME CALLS /SY OR SY2SV  
AR  
RELAYED BY KB8NW/OBS @ BARF-80 BBS

FCC RELYING ON FAULTY DATA?

Downloaded from the KB8CI PBBS on 145.01

Msg#	TR	Size	To	From	@ BBS	Date	Title
7049	FM	2486	ALL	WB2HBZ		0917/0629	Friendly Candy Company Challenge

To: all@rt5s all@rt5n all@kc2ph all@k3mmc  
Subject: Friendly Candy Company Challenge

It looks like the gents down at FCC headquarters may be relying on faulty data again. The August 15th issue of "Radio Communications Report" (an industry journal for the mobile communications industry) cites a private study showing that the ol' Friendly Candy Company doesn't know how many radios they're counting.

According to RCR's report, The Janus Group of Connecticut, a research outfit serving the private land mobile market, says the FCC's figures are way out of line. In a Janus report entitled "A Business Consumer View," the FCC is said to have counted 10,000,000 licensed radios by the end of 1985. In sharp contrast, the folks at Janus could account for only four million. Janus claims their data reflects actual use while the FCC's figure tells how many are \*authorized.\*

Similarly, Janus researchers found that less than \*two-thirds\* of the authorized licensees below 800 MHz actually use their equipment. Of this admittedly large percentage of users, however, only two-thirds of their spectrum allocations or allotments are being used!

Even more incredible, Janus says that half of the operations authorized at 800 MHz are functioning. That means the other half are on the bench or on the shelf or gathering dust somewhere. Both operations and radios are not being used.

But, as Tom Clark would say: "Wait! There's more!"

Janus predicts that although sales of private land mobile radios grew by a healthy 7.5 percent last year ('86), the sales rate will slow way down and might even crawl along at five percent by 1996. The aren't too optimistic about the sales growth associated with pagers and cellular phones either. Now verifying usage rates and coming up with statistical data may or may not be an easy thing to do, but apparently the Janus Group feels their data is so good that they're willing to stake their business reputation on their findings. Radio Communications Report notes that Janus' report found "significant incongruities" in FCC data.

Just thought you might like to know. Vy 73, Alex AI2Q @ AI2Q .-.-.



# ARRL WAS AWARD APPLICATION

Please PRINT.

Call: \_\_\_\_\_ Name \_\_\_\_\_  
(Print exactly as you want it to appear on certificate)

List any ex-calls used on  
any cards submitted: \_\_\_\_\_  
Address \_\_\_\_\_  
(number and street)

\_\_\_\_\_  
(City, State/Country, ZIP/PC)

## FOR RETURN POSTAGE

Cash/Check/Stamps/IRCs  
enclosed.

\$ \_\_\_\_\_

### Return my cards via:

- ☐ Registered  
☐ Certified • U.S. only  
☐ United Parcel Service  
☐ First-class mail

W/VEs: Membership control number  
(from your QST wrapper) : \_\_\_\_\_

Is this your first WAS application? ☐ YES ☐ NO

If NO, my original WAS number held is \_\_\_\_\_

I was first licensed in (year): \_\_\_\_\_

I am applying for ONE of the following WAS awards (each is separately numbered):  
Please Check: (Use MCS-225 for 5BWAS)

- |   |   |                                  |
|---|---|----------------------------------|
| <input type="checkbox"/> Basic award (mixed bands and/or modes) |   |                                  |
| <input type="checkbox"/> SSTV                                   | <input type="checkbox"/> 144 MHz                        | <input type="checkbox"/> 50 MHz  |
| <input type="checkbox"/> OSCAR Satellite                        | <input type="checkbox"/> 160 Meters                     | <input type="checkbox"/> 220 MHz |
| <input type="checkbox"/> RTTY                                   | <input type="checkbox"/> 75 Meters 2-Letter Extra Class | <input type="checkbox"/> 432 MHz |

I am applying for the following ENDORSEMENTS (Check **ALL** that apply):

- |                              |                                 |   |
|------------------------------|---------------------------------|---|
| <input type="checkbox"/> SSB | <input type="checkbox"/> Novice | <input type="checkbox"/> Single Band: _____<br>(Meters) |
| <input type="checkbox"/> CW  | <input type="checkbox"/> QRP    |   |

The undersigned affirms that he/she has read, understood, and abided by the rules of the WAS award (MCS-264).

Signature \_\_\_\_\_ Date \_\_\_\_\_ 19 \_\_\_\_\_

## HF AWARDS MANAGER VERIFICATION

I hereby verify that I have personally inspected the confirmations with all 50 states and verify that this application is correct and true. In my own handwriting, I confirm this application is for the following SPECIALITY awards or ENDORSEMENTS: \_\_\_\_\_ (write NONE if none)

\_\_\_\_\_  
(signature) (call) H- \_\_\_\_\_ 19 \_\_\_\_\_  
(Mgr. 4-digit code #) (date)

## DIRECTIONS TO APPLICANT

1. Read the WAS Rules (MCS-264) carefully.
2. Fill out BOTH sides of this application.
3. Sort cards alphabetically by state.
4. Present application and cards to your ARRL Special Service Club HF Awards Manager for verification.  
**Applications from DX stations may be certified by the Awards Manager of your IARU member-society.**
5. Send application to ARRL HQ. Send cards also ONLY if there is no local HF Awards Manager for verification.
6. If mailing cards, enclose postage sufficient for return of cards (see attached CD-16). MAIL TO:  
ARRL WAS Award  
225 Main Street  
Newington, CT 06111 USA



STATE	CALL	DATE	BAND	MODE	
Alabama					
Alaska					
Arizona					
Arkansas					
California					
Colorado					
Connecticut					
Delaware					
Florida					
Georgia					
Hawaii					
Idaho					
Illinois					
Indiana					
Iowa					
Kansas					
Kentucky					
Louisiana					
Maine					
Maryland (D.C.)					
Massachusetts					
Michigan					
Minnesota					
Mississippi					
Missouri					
Montana					
Nebraska					
Nevada					
New Hampshire					
New Jersey					
New Mexico					
New York					
North Carolina					
North Dakota					
Ohio					
Oklahoma					
Oregon					
Pennsylvania					
Rhode Island					
South Carolina					
South Dakota					
Tennessee					
Texas					
Utah					
Vermont					
Virginia					
Washington					
West Virginia					
Wisconsin					
Wyoming					



# October 1987

NORTH COAST COMMUNICATOR

SUN MON TUE WED THU FRI SAT

				1 NCARC General Meeting NCARC Trustees Meeting	2	3 Informal Net 10:00 - 28.4
4 Springfield, OH Hamfest NCARES Mtg K8SCI QTH @ 14:00 Code practice 20:00 - 145.29 Informal Net 21:00 - 145.29	5	6	7 NCARC Classes 19:00 - 21:30	8	9	10 Mt. Airy VHF ARC Conference NCARC Foxhunt Informal Net 10:00 - 28.4
11 Lima OH Hamfest Lansing MI Hamfest Code practice 20:00 - 145.29 Informal Net 21:00 - 145.29	12	13	14 NCARC Classes 19:00 - 21:30	15	16	17 BSA Jamboree On The Air Syracuse NY Hamfest EAP Disaster Drill @ 11:00 Informal Net 10:00 - 28.4
18 Carlisle PA Hamfest BSA Jamboree On The Air Code practice 20:00 - 145.29 Informal Net 21:00 - 145.29	19	20	21 NCARC Classes 19:00 - 21:30	22	23	24 Informal Net 10:00 - 28.4
25 Kalamazoo MI Hamfest Marion OH Hamfest Code practice 20:00 - 145.29 Informal Net 21:00 - 145.29	26	27	28 NCARC Classes 19:00 - 21:30	29	30	31 Informal Net 10:00 - 28.4

September 1987

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20	21	22	23	24	25	26
27	28	29	30			

November 1987

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22	23	24	25	26	27	28
29	30					



# NORTH COAST AMATEUR RADIO CLUB - 1987 CALENDAR YEAR

## OFFICERS

President.....Tim Hitesman NR8T.....871-3055  
 Vice President..Bob Mills K8TTZ.....431-9492  
 Treasurer.....Jim Nestor N8GJR....1-355-8697  
 Secretary.....Dave Hoffman KA8ZRG...835-8275

## POSITIONS

ARRL Club Liason.... Rick K8SCI.....779-8999  
 ARRL VE Liason.....Dan KB8A.....267-5083  
 Awards.....Fred WB8UDA.....Unlisted  
 Contest.....Dave KB8TT.....942-5030  
 Newsletter Editor....Steve N8GNJ....1-365-2793  
 Education.....Ray WD8MHL.....671-0317  
 Field Day.....Ron KB8BEB.....235-2882  
                     Rick K8SCI and Ray WD8MHL  
 Finance.....Mike K9SSL.....225-1744  
 Membership.....Pauline KA8FOE...779-8999  
 NCARES.....Rick K8SCI.....779-8999  
 Net Coordinator.....Steve N8GNJ....1-365-2793  
 Programs.....VOLUNTEER NEEDED!!!  
 Public Relations.....Steve NO8M.....777-1177  
 Refreshments.....Pauline KA8FOE...779-8999  
 Sunshine.....Pauline KA8FOE...779-8999  
 Technical.....Tom N8FQQ.....251-3080

## TRUSTEES

Dan N8ETQ.....845-5442  
 Tom KD8EX.....1-933-8753  
 Pauline KA8FOE.....779-8999  
 Steve N8GNJ.....1-365-2793  
 Dick WD8ISB.....467-7733  
 Steve WD8INO.....741-2547  
 Steve NO8M.....777-1177  
 Ray WD8MHL.....671-0317  
 Rick K8SCI.....779-8999

## VOLUNTEER EXAMINERS

Dan KB8A.....267-5083  
 Dan WD8AJF.....1-748-2816  
 Pete W1BKZ.....951-9360  
 Dick KD8EQ.....235-2323  
 Heinz KC8F.....734-6890  
 Bob W8IO.....734-0570  
 Dick WD8ISB.....467-7733  
 Don KD8JQ.....1-723-5492  
 Dave AI8M.....1-324-4574  
 Steve NO8M.....777-1177  
 Mike K9SSL.....225-1744  
 Tim NR8T.....871-3055  
 Shirley KA8Y.....562-5858



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